REVIEWS AND APPROVALS

NINEPIPE NATIONAL WILDLIFE REFUGE

Charlo, Montana

National Bison Range Complex

Moiese, Montana

ANNUAL NARRATIVE REPORT

Calendar Year 1995

David Wiseman 4/1/99
Refuge Manager Date

Refuge Supervisor Review 4/14/99
Date

Regional Office Approval 6/7/02
Date

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U.S. Department of the Interior
Fish and Wildlife Service
NATIONAL WILDLIFE REFUGE SYSTEM

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INTRODUCTION

Ninepipe National Wildlife Refuge is located on the Flathead Indian Reservation about 5 miles south of Ronan, and 50 miles north of Missoula, Montana. It is a 2,062-acre "easement" waterfowl refuge administered by National Bison Range personnel.

The refuge is located on lands of the Confederated Salish and Kootenai Tribes. Lands within the refuge boundary were first withdrawn for an irrigation reservoir as part of the Flathead Project in 1910. The wildlife refuge was established by Executive Order on the same withdrawal in 1921, subject to reservoir uses at the request of the Tribes. A 1948 Act of Congress reimbursed the Tribes $400,000 for all past and future uses of certain reservation lands for physical works and facilities of the Flathead Project irrigation and power systems, and for wildlife refuges (Ninepipe and Pablo NWR's). The payment included $50,644 for the permanent easement at Ninepipe Refuge.

The 1948 Act also stated that the Tribes "shall have the right to use such Tribal lands, and to grant leases or concessions thereon, for any and all uses not inconsistent with such permanent easement". The phrase "not inconsistent with such permanent easement" has been the subject of considerable controversy, correspondence and negotiation over the years, but FWS has had some influence on management of the refuge for wildlife purposes. The Tribes manage the fishery resources.

The irrigation reservoir contains about 1,672 acres at full pool level. The only FWS influence of water levels comes through cooperation with the BIA Flathead Irrigation Project. In the case of conflicts, wildlife becomes secondary to irrigation due to wording in the 1921 Executive Order. However, the water regime for irrigation has generally benefitted wildlife at Ninepipe. In particular, the refuge has become an important breeding and staging area for a large portion of the Flathead Valley Canada goose population, the Valley's only western grebe colony, a large great blue heron colony, a variety of ducks and numerous species of other marsh and water birds.

Approximately 390 upland acres within the refuge are grazed by a Tribal permittee under a rotational grazing system set up under a Memorandum of Understanding among the FWS, BIA, and Tribes. It was up for renewal in 1994 but the Tribes did not sign.

Ninepipe NWR lies in the center of a terminal moraine with a high density of small wetlands and is nearly surrounded by 3,100 acres of a State Game Management Area, approximately 3,000 acres of Tribal lands, 3,060 acres of Federal WPAs and 2,000 acres of FWS conservation easements that prevent housing development and wetland drainage. It is therefore the core of an excellent wildlife complex.

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A. HIGHLIGHTS

A trumpeter swan was seen on Ninepipe in late May.

Charles and Shirley Keller returned as volunteers and were instrumental in gathering baseline data on avian species using Ninepipe NWR.

The Memorandum of Understanding with the Confederated Salish and Kootenai Tribe concerning Tribal member grazing expired December 31, 1994. For further details, see Planning, Section D-2.

B. CLIMATIC CONDITIONS

Ninepipe is only 6 air miles from headquarters of the National Bison Range. Details on this year's weather conditions are in the Bison Range Narrative.

C. LAND ACQUISITION

1. Fee Title

Nothing to report.

2. Easements

In recent years the importance of the Flathead Valley of western Montana as an ecosystem critical to many species of wildlife has been recognized. Much of western Montana still retains an undeveloped character, but pressures that have consumed habitat in other parts of the continent are fast degrading this world-class habitat. The primary habitat threat is subdivision for 2- to 20-acre ranchettes. Ranchette development eliminates habitat and leads to fragmentation problems. Protected areas become isolated and disturbed as development surrounds them.

The U.S. Fish and Wildlife Service program seeks to link valuable wildlife areas through the purchase of conservation easements thus creating large blocks of wildlife habitat and corridors out of what is now a fragmented and disjunctive system. The purchase of easements is the preferred method of protection because it minimizes costs and keeps the land in private ownership.

The Fish and Wildlife Service started purchasing conservation easements in 1994 with funds provided through the Migratory Bird Fund. Bill West and Lynn Clark were the main contacts for local land owners.

The core area for the purchase of conservation easements centers around Ninepipe NWR. For more information on easements pursued in 1995, see the 1995 NW. Montana Wetland Management District Narrative.

3. Other

Nothing to report.

D. PLANNING

1. Master Plan

Nothing to report.

2. Management Plan

Attempts to reach agreement with the Confederated Salish and Kootenai Tribes (CS&KT) on a compact of programs run by the National Bison Range included discussion of potential management scenarios, but no finished plan materialized by year's end.

A renewable Memorandum of Understanding (MOU) with the Tribes for grazing activities on the refuge expired. It was still not signed by the Tribes by the end of 1994. The MOU outlines grazing management that involves 100 AUMs of grazing per year. There are 4 grazing units and all 100 AUMs are supposed to be utilized in only one unit per year, rotating through the 4 units every 4 years. CS&KT compacted/contracted the grazing administration away from the Bureau of Indian Affairs in 1993. Discussions about Tribal self-governance and compacting of USFWS programs may have been the reason CS&KT waited on renewing the MOU. The tribal grazing permittee was assessed by FWS staff not to be using the correct grazing units and causing damage to native and planted woody vegetation. The grazing program for this year was not compatible with the purpose of the refuge.

An Upland EA, written to satisfy a National Wildlife Federation/Audubon/Sierra Club lawsuit, left out Ninepipe and Pablo Refuges pending the signing of an MOU. **This EA was later revised to include these two refuges despite the lack of an MOU and incompatible cattle use by the Tribal grazing permittee.**

3. Public Participation

For further information on the CS&K Tribes proposal to compact The National Bison Range, all ancillary properties and programs, see The National Bison Range Annual Narrative 1995.

4. Compliance with Environmental and Cultural Resource Mandates

In April of 1994, compatibility and environmental assessment drafts were completed for public use on all units.

5. Research and Investigations

Ninepipe NR-87 - Nest Success of Upland Nesting Ducks in Relation to Predator Removal - Montana Cooperative Wildlife Research Unit, The University of Montana, Missoula, Montana

Nest searches were conducted on 628 acres of managed cover in the skunk removal area in 1995. Nest searches were conducted 3 times during the year. Mayfield nest success was 6.5% for all ducks with 151 nests found, 3.5% for mallards with 75 nests found. The densities of nests found per acre for all ducks was 0.24 and 0.12 for mallards.

Nest searches from 1986 to 1995 were conducted as part of a long-term study analyzing the effects of skunk removal on nest success. Skunks were trapped and removed from the area from 1989 to 1994. In 1995, skunks were marked and released.

Four to six field workers were employed to conduct nest searches and trap skunks.

Long-term Study of an Undisturbed Cormorant Colony - Marcella M. Bishop, National Bison Range, Moiese, MT.

Great blue herons established nesting at Ninepipe NWR in 1970. Double-crested cormorants began nesting in this heronry in 1974. They have been monitored for nest success, arboreal behavior, fishing sites, nest stratification and effects on vegetation since the inception of the colony. Arboreal nests are on islands stretching over 1.5 miles along the west side of the reservoir. However, observed behaviors and continuous use of the available substrate indicate this is one biological colony. Adults range out to other sites, up to 30 miles distant, to forage. This reserves fish resources near nests for newly fledged young. (Production data for 1995 is shown in Section G-4),

6. Other

Nothing to report.

E. ADMINISTRATION

1. Personnel

Ninepipe NWR is administered from the National Bison Range. Administrative information appears in the Bison Range Narrative.

2. Youth Program

Nothing to report.

3. Manpower Programs

Nothing to report.

4. Volunteer Program

Charles and Shirley Keller returned for a second year. They did many bird surveys on the National Bison Range, Ninepipe NWR, Pablo NWR, and the Waterfowl Production Areas. They have been invaluable in providing baseline data of a variety of avian species on Ninepipe NWR.

A major project in the valley has been control of the exotic plant purple loosestrife (Lythrum salicaria). Neal and Patty Brown of the Flathead Audubon Chapter worked with Bill West in the annual volunteer hand digging control project on adjacent State lands. This helps buffer the refuge from loosestrife invasion.

The National Audubon Society held their Flathead Valley Christmas Bird Count on December 17, a clear but very cold day. The area covered is a circle 15 miles in diameter, centered on Ninepipe NWR and encompassing the Lake County WPA's and the northeast corner of the National Bison Range. A total of 72 bird species were seen for a total of 24,016 birds counted. Of special note were the 12,327 mallards, 2,280 Canada geese and 4,088 bohemian waxwings - all record numbers for the count. Bald eagles numbered 37 with 19 adults and 18 immature birds tallied. Other species occurring with high count numbers were redhead ducks, Barrow's goldeneye, ruddy duck, canvasback, red-shafted flicker, pileated woodpecker, black-billed magpie, black-capped chickadee, chestnut-backed chickadee, pygmy nuthatch, golden-crowned kinglet, Townsend's solitaire, American robin, European starling, song sparrow, white-throated sparrow, Oregon junco, house finch and pine siskin.

5. Funding

Nothing to report.

6. Safety

Nothing to report.

7. Technical Assistance

Nothing to report.

8. Other

Nothing to report.

F. HABITAT MANAGEMENT

1. General

Management at Ninepipe requires close coordination with the Confederated Salish and Kootenai Tribes (CS&KT), who own the land, and the BIA Flathead Irrigation Project (FIP), who control water levels in the reservoir.

Month-end water levels at Ninepipe Reservoir (acrefoot):

January	2459
February	2485
March	2485
April	2485
May	2293
June	11381
July	11381
August	6431
September	3192
October	3703
November	4759
December	6327

2. Wetlands

Water in the Ninepipe Reservoir was at a very low level going into the spring. Much of this was from extreme drought in 1994 and high irrigation demand at the end of last year.

The reservoir was filled in June after goose nesting peaked and before duck nesting had finished. This required coordination with the Flathead Irrigation Project Manager. The goal is to reduce impact on goose nesting and fill quickly so duck hens can renest after their nests are flooded.

Pothole wetlands were only partially recharged by the winter moisture. Many wetlands were dried up by the 1994 drought and it will take substantial moisture/snow to recharge them.

3. Forests

Nothing to report.

4. Croplands

Nothing to report.

5. Grasslands

The refuge supports 390 acres of uplands in a narrow band around the reservoir. This area is dominated by introduced cool-season grasses, but there are some areas where native grasses are recovering. Good moisture in May, June, and July helped many plants recover from the 1994 drought. Forbs and weeds seemed to recover more than the native grasses.

6. Other Habitats

Dense nesting cover was constructed on two islands by Ducks Unlimited in 1987. The wild rose and snowberry plots planted in 1988 are well established and no cultivation has been required on them since 1990. Vegetation is nonexistent on most islands occupied by herons, gulls, and cormorants. There are seven islands that fit this description.

7. Grazing

A Memorandum of Understanding regarding grazing on Ninepipe expired in December of 1994. The MOU outlines grazing management that involves 100 animal unit months (AUMs) are supposed to be utilized in only one grazing unit per year, rotating through the 4 units every 4 years. The tribal grazing permittee was assessed by FWS staff not to be using the correct grazing units and causing damage to native and planted woody vegetation.

The North side Unit was supposed to be grazed from June 15 to August 15 with the permittee having 100 AUMs. However, about half the time, the cattle were on the west unit on the reservoir dam and on the south side near the State Widlife Management Area (WMA) headquarters. The permittee believes the fences are not good enough to keep his cattle in the north unit and off the highway. The Tribes choose not to rebuild the fence and the permittee believes they are beyond repair. The project leader believes it is an incompatible use, but efforts to work at the problem with CS&KT have not yet solved the issue.

8. Haying

Nothing to report.

9. Fire Management

Nothing to report.

10. Pest Control

West prepared a new proposal for continued funding from the Montana Week Trust Fund Grant to control purple loosestrife. Proposed funding would be $40,000 per year.

There was no mowing of Canada thistle again this year. In recent years thistle plants have been weakened by damage from activity of the stem mining weevil (Ceutorhynchus litura) introduced in 1988. This weevil has spread to nearly all thistle stands in the Pablo/Ninepipe/Bison Range area.

Dalmatian Toadflax was quite abundant on the reservoir mud flats in May. Luckily, the big shot of water in June drowned these plants prior to seed set.

Additional adult leafeating beetles (Galerucella calmariensis and G. pusilla) were released on purple loosestrife in June. As part of the pest control effort Rachael Sykes, a Montana State University student and former Bison Range YCC enrollee, was again hired through the Lake County Purple Loosestrife Committee to care for and monitor loosestrife leaf eating beetles (Galerucella sp.). She had established a nursery and research plot in 1993 in a wetland on the north end of the refuge and continued to monitor the site during the summer. The insects are spreading, but are not yet viable control option for loosestrife.

Hoary Cress or Whitetop, 40 acres, was sprayed with the truck sprayer on the north and south side of Ninepipe in late May. Many of the worst areas are under Russian Olive trees on the south side of the reservoir. Cattle seeking shade under these trees denude the ground and foster the weed growth.

11. Water Rights

Nothing to report.

12. Wilderness and Special Areas

Nothing to report.

13. WPA Easement Monitoring

See the Northwest Montana Wetland Management District Annual Narrative for easement monitoring around Ninepipe NWR.

G. WILDLIFE

1. Wildlife Diversity

The excellent bird diversity at Ninepipe continues with white pelicans showing up during summer and the possibility of great egrets breeding for the first time. Grizzly bears frequented the area on and off during the summer.

In further efforts to increase diversity, a nesting platform was erected in 1993 for ospreys at the south end of the refuge. Great horned owls used the nest and fledged in May. The platform was later used by ospreys but there was no nest attempt.

The lab report on 3 ravens found dead at Ninepipe showed organophosate residue, consistent with that used in Warbex type grub treatments for cattle.

2. Endangered and Threatened Species

The three grizzly cubs orphaned when their mother was killed in the summer of 1994, were fattened in a holding pen in Kalispell until December 1994. CS&KT and USFWS staff placed the cubs in a den at the Pine Butte area, on the eastern front of the Rocky Mountains. Two cubs were later seen hanging around buildings this spring. They apparently had not acquired enough life skills from their mother prior to her death. They were captured and given to a zoo.

3. Waterfowl

Ducks

The pair count was conducted on May 24, with 522 pairs counted on the main reservoir, Schoonover, and the North 80.

Duck production estimates were based on three calculations: 1.) a 6% hen success derived from ongoing nesting studies by the Montana Cooperative Wildlife Research Unit on lands adjacent to the refuge (this was down from the 49% success found last year); 2.) an average brood size of 5.2 from 16 broods tallied in the brood sample at Ninepipe and nearby WPA's (up from 3.8 calculated last year); and 3.) an estimated 70% survival of young from the sample count to flight stage. Calculated production was down 88% from 1994, due to the dramatic decline in nest success.

The two Ducks Unlimited Islands were not surveyed for duck nests this year.

Duck banding is done in cooperation with the Montana Cooperative Wildlife Research Unit, Montana Department of Fish, Wildlife and Parks and the Confederated Salish and Kootenai Tribes. A complete report on cooperative banding in the area is found in the Northwest Montana Wetland District Narrative.

TABLE 1. 1995 Duck Production
Ninepipe and Schoonover
(pairsX.06 productionX5.2 brood sizeX.7 brood survival production)

SPECIES	NUMBER OF BREEDING PAIRS	PRODUCTION
Ruddy Duck	3	1
Gadwall	76	17
American Wigeon	19	4
Northern Shoveler	15	3
Lesser Scaup	4	1
Northern Pintail	2	0
Redhead	74	16
Cinnamon Teal	25	5
Green-winged Teal	8	2
Blue-winged Teal	3	1
Ring-necked Duck	4	1
Common Goldeneye	1	0
Barrow's Goldeneye	3	1
Wood Duck	6	1
Bufflehead	1	0
Unknown	77	17
Mallard	201	44
TOTAL	522	114

Volunteers Charles and Shirley Keller established a survey route around Ninepipe. They ran the survey six times from May 17 through June 27. The results of the ducks surveyed can be found in Table 2. This is not a complete count of the ducks using Ninepipe on the given days, but an index of the ducks seen along the survey route.

Table 2. 1995 Ninepipe survey

Species	May 17	May 22	May 25	June 5	June 14	June 27
Wood duck				6		
Green-winged teal	12	4				
Mallard	80	66	200	102	210	36
Northern pintail	6		10	10		
Blue-winged teal	8	4	10	15	15	10
Cinnamon teal	30	12	14	18	32	6
Northern shoveler	18	6	22	34	10	4
Gadwall	26	42	200	63	110	31
American wigeon	10	6		10	12	18
Canvasback	2				2	
Redhead	18	22	20	52	200	310
Ring-necked duck					8	103
Lesser scaup	15	6	6	6	10	46
Common goldeneye		1	2		1	1
Barrow's goldeneye	4	3	4			
Ruddy duck				22		3

No aerial fall waterfowl counts were flown in 1995. The flights were discontinued when it was determined that the information was not that valuable biologically. Most requests for information on waterfowl numbers came from hunters or the media. General trend information and weekly ground observations will replace the aerial flights.

Geese

A total of 73 pairs of Canada geese were counted on Ninepipe during the valley-wide aerial breeding pair census in April. This number was very close to the 71 pairs counted in 1994. The aerial goose brood count conducted the end of May tallied 172 goslings on Ninepipe, a major decrease from 355 counted in 1994. The big decrease in numbers probably reflects cold and wet weather during nesting. Goose production for Ninepipe and the entire Flathead Valley recorded 1,482 young down from 2,042 in 1994, a record year.

Three snow geese were seen at Ninepipe on May 17. An emperor goose was spotted with Canada geese during the brood survey in August.

4. Marsh and Water Birds

Forty-five tundra swans were seen on Ninepipe, Duck Haven and Crow WPA's in February.

Pelicans were sighted on Ninepipe throughout the summer with 1 recorded on May 12, 18 on another day in May, 32 sighted on June 5th, and 45 recorded on the brood count in August. A collared trumpeter swan was spotted in the reservoir in May and 11 unknown swans were observed during the pair count in May.

Ninepipe NWR supports the largest double-crested cormorant colony west of the continental divide in Montana. Outdoor Recreation Planner Bishop has studied the Ninepipe cormorant colony since its inception in 1974, and again counted cormorant and great blue heron nests and young.

At Ninepipe, 324 cormorant young were found in 119 nests, resulting in a success rate of 2.72 per nest. The 2.72 per nest is the highest ever recorded in 20 years. The previous high was 2.67 in 1981. The 20 year average is 2.15 per nest. The low was 2.06 in 1990. The highest number of young ever raised at Ninepipe was 339 young in 158 nests in 1990. There is a 16 year average of 241 young and 92 nests per year. (The first 4 years of colonization, with 1, 1, 13, and 32 nests respectively were not included in the calculation.)

The 2.02 heron young per nest for 1995 is also the 20 year average. 124 young were found in 56 nests. The highest success per nest was 2.45 in 1977 and 2.43 in 1981. The lowest was 1.88 in 1980 the year Mt. St. Helens erupted. Young herons were in the nest at the time of the ash fall and were greatly effected. The highest number of heron young ever raised at Ninepipe was 359 young in 148 nests in 1991. The 20 year average is 186 young in 75 nests per year.

American coots are common. Charles and Shirley Keller counted 62, 66, 18, 48, 30, and 16 on the six days they ran the Ninepipe survey route.

Western grebes were common on Ninepipe. Also present were red-necked and Pied-billed grebes. Western and red-neck grebes were observed with young. The very low water in May and very high water in June was not conducive to productive development of the Western grebe colony. Production was estimated to be far below average.

5. Shorebirds, Gulls, Terns and Allied Species

The gull islands were not surveyed in 1995. Gulls were counted along the Ninepipe survey route set up by Charles and Shirley Keller. For results, see Table 3.

The most common shorebirds observed at Ninepipe are American avocets, long-billed dowitchers, and killdeer. Also observed in 1995 were the following: black-billed plover, greater and lesser yellowlegs, spotted sandpiper, common snipe, Wilson's phalarope, and red-necked phalarope. Table 3 shows the results of the surveys run by volunteers Charles and Shirley Keller. This data represents totals seen along a specified survey route and is not a total count. Also included in Table 3, are the results of birds tallied on the duck pair count. This count covers the entire shoreline of Ninepipe NWR, but does not include the islands.

Caspian, common, Forester's, and black terns were all observed on Ninepipe in 1995. See Table 3. No nesting was documented, but may have occurred.

Table 3. Selected Bird Species Recorded on Survey Route at Ninepipe NWR 1995

Species	5/17	5/22	5/25	6/05	6/14	6/26	PAIR CNT 5/24/95
Pied-billed Grebe		1				1	
Red-necked Grebe	6	2	6	2	10	6	2
Eared Grebe		1					
Western Grebe	18	82	28	82	65	52	57
White Pelican	1			32			
Trumpeter Swan			1				
Osprey	1	2		2	1	1	
Bald Eagle			1			1	
Northern Harrier	8	2	2	1	1	1	
Red-tailed Hawk	6	2	2	2	2	1	
Golden Eagle		1					
American Kestrel	4	2	1	2	2	1	
Sora	1						
Black-bellied Plover	3	1					
Killdeer	26	24	6	20	6	6	
American Avocet	24	32	36	24	16	0	117
Greater Yellowlegs						2	
Lesser Yellowlegs		1					
Spotted Sandpiper	1			2			3
Marbled Godwit			1				1
Least Sandpiper	2						
Pectoral Sandpiper		2					
L-B Dowitcher	11						
Common Snipe		6					
Wilson's Phalarope	18	5	3	2	3		
R-N Phalarope		27					
Ring-billed Gull	1200	500	1000	+	2000	300	
California Gull	200	70	100	+	100	34	
Caspian Tern		1					6
Common Tern	2	2			2		
Forester's Tern	6	6	8	10	2		2
Black Tern	2						

Not all species were tallied during the pair count conducted on May 25, 1995. For instance, there were gulls and coots present but not counted.

6. Raptors

American kestrels, northern harriers, red-tailed hawks, ospreys, short-eared owls and great horned owls were the most commonly observed raptors on the refuge during spring, summer and early fall. A pair of great-horned owls nested and raised 2 young. Volunteers Charles and Shirley Keller reported seeing 24 short-eared owls during one survey in the fields west of Ninepipe. Rough-legged hawks were most commonly observed during late fall, winter and early spring migration.

Raptors encountered on the Audubon Christmas Bird Count in and around Ninepipe included 37 bald eagles, 68 rough-legged hawks, 1 peregrine falcon, 27 Northern harriers, 1 sharp-shinned hawk, 2 Northern goshawk, 26 red-tailed hawks, 4 golden eagles, 8 American kestrels, and 19 great horned owls.

7. Other Migratory Birds

Nothing to report.

8. Game Mammals

Nothing to report.

9. Marine Mammals

Nothing to report.

10. Other Resident Wildlife

Ring-necked pheasant populations did well in and around Ninepipe this year. Over 106 pheasants were seen during the Audubon Christmas Bird Count.

11. Fisheries

The Ninepipe fishery is managed by the Confederated Salish and Kootenai Tribes. The primary fishery is largemouth bass which were introduced in 1932. Pumpkinseed sunfish were introduced in 1926 and yellow perch were introduced in 1931.

Studies completed by the Tribes indicate that bass numbers are related to water levels and stability during spawning.

12. Wildlife Propagation and Stocking

Nothing to report.

13. Surplus Animal Disposal

Nothing to report.

14. Scientific Collections

Nothing to report.

15. Animal Control

Nothing to report.

16. Marking and Banding

Nothing to report.

17. Disease Prevention and Control

Nothing to report.

H. PUBLIC USE

1. General

Visitation for Ninepipe was estimated just over 16,000, exclusive of the public roads crossing portions of refuge lands. Fishing has historically comprised most public use at Ninepipe but wildlife viewing has been increasing steadily in western Montana and for the last several years wildlife watchers, with a large number of birders, have outnumbered fishermen.

The wildlife viewing site off of Highway 93 received high use during its second year although signs were not yet erected. This is a fully accessible site with parking, a nature trail and restroom. It was planned as a cooperative project by the Service, Confederated Salish & Kootenai Tribes and the Montana Department of Fish, Wildlife & Parks.

Montana Department of Transportation 1995 traffic counters determined that close to 3,000,000 vehicles traveled Highways 93 and 212 in the area where these roads go by Ninepipe. The average daily travel in the area was 8,608 vehicles, close to the 1994 daily average of 8,711. The year-long average was 6,637 vehicles a day.

Table 4. Visitors/hours at Ninepipe NWR for 1986 through 1995.

Year	Fishing		Wildlife Observation		Education		TOTAL	
	Visitors	Hours	Visitors	Hours	Visitors	Hours	Visitors	Hours
1986	2,600	8,000	2,500	4,000	400	1,500	5,500	13,500
1987	3,500	13,000	2,900	4,700	200	750	6,600	18,450
1988	2,000	6,000	1,400	2,000	500	900	3,900	8,900
1989	2,600	6,800	3,000	4,000	200	500	5,400	11,300
1990	2,200	6,800	3,000	4,000	200	500	5,400	11,300
1991	3,100	9,300	3,500	7,000	300	900	6,900	16,200
1992	3,000	7,500	4,200	7,500	350	1,000	7,500	16,000
1993	3,500	8,800	4,500	8,100	300	800	8,300	17,700
1994	3,000	7,500	5,500	9,900	320	850	8,820	18,250
1995	6,000	15,000	10,000	18,000	320	8,700	16,320	32,700

2. Outdoor Classrooms - Students

Registered school groups that engaged in educational activities at Ninepipe totaled 258. They spent approximately 650 hours observing bird life or doing other wetland learning projects during the spring. Additional unscheduled schools and University classes also used Ninepipe for field trips. The Audubon Council scheduled a field trip for 32 people in May.

3. Outdoor Classrooms - Teachers

Teacher use is included in the summary above.

4. Interpretive Foot Trails

The wildlife viewing area developed off Highway 93 in cooperation with CS & KT and Montana Department of Fish, Wildlife, and Parks (MT FWP), has an asphalt covered foot trail (on the Refuge). Interpretive signs for the trail are being developed in cooperation with MT FWP, but have not yet been placed on the trail.

5. Interpretive Tour Routes.

Nothing to report.

6. Interpretive Exhibits\Demonstrations

A kiosk, with changeable panels, located at a good viewing area just off Highway 93, presented a seasonal interpretive message to visitors. Fishing regulations, maps and bird lists were stocked at Refuge entrance points in season.

7. Other Interpretive Programs

Nothing to report.

8. Hunting

Ninepipe is not open to hunting. The refuge and its waterfowl production contributes to the quality of hunting on surrounding State, Tribal and private lands and provides a much needed sanctuary for feeding and resting waterfowl during hunting season and for the balance of the year.

The refuge also provides an important core of winter cover and sanctuary for ring-necked pheasants. Good pheasant and gray partridge populations occur on and near the refuge.

9. Fishing

Fishing has been one of the major visitor attractions at Ninepipe for a number of years. The entire refuge was open to ice fishing after waterfowl season closure in January. Beginning March 1, most of the shoreline is closed to fishing due to the waterfowl nesting season. The entire refuge reopened for fishing on July 15 and parts closed again during upland game bird and waterfowl seasons. An estimated 7,000 fishermen used the site throughout the year.

10. Trapping

Nothing to report.

11. Wildlife Observation

Bird watching has become even more popular at Ninepipe and birders topped fishermen in numbers again this year. Audubon Clubs as well as individual birders and university groups used the area regularly.

The Flathead Audubon Chapter conducted the annual Christmas Count which centers on Ninepipe. Jim Rogers of Polson continued as compiler. (See Section E-4, Volunteer Program, for details.)

12. Other Wildlife Oriented Recreation

The refuge was a popular spot for photographers, both amateur and professional, because of its easy accessibility from two highways. Pull-outs along Highway 93 were also favorite spots for sunset photos across the refuge.

13. Camping

Nothing to report.

14. Picnicking

Nothing to report.

15. Off-Road Vehicle Use

Nothing to report.

16. Other Non-Wildlife Oriented Recreation

Nothing to report.

17. Law Enforcement

Refuge Officers from the National Bison Range and Tribal wardens from the Confederated Salish and Kootenai Tribes patrolled Ninepipe throughout the year as time permitted. Tribal Wardens were active during the fishing season with Bison Range staff patrolling during waterfowl and pheasant season. Ninepipe was posted for closure just prior to waterfowl season.

Five citations were issued for trespass on Ninepipe National Wildlife Refuge during closed season. Bonds of $100.00 for each incident were posted. All citations are pending closure. For more information on law enforcement, see the narrative reports for the National Bison Range.

18. Cooperating Associations

A number of wetland and waterfowl-oriented publications which are applicable to this area are sold through the Glacier Natural History Association book outlet.

19. Concessions

Nothing to report.

I. EQUIPMENT AND FACILITIES

1. New Construction

Nothing to report.

2. Rehabilitation

Nothing to report.

3. Maintenance

Goose nest structures were serviced in January. Grading and road repairs were done in the spring and again in late summer.

4. Equipment Utilization and Replacement

Nothing to report.

J. OTHER ITEMS

1. Cooperative Programs

National Bison Range staff cooperated with CS&KT in management of Ninepipe by discussing and coordinating their fisheries survey and management activities with wildlife refuge purposes. Another program was development interpretive displays for the Cooperative Wildlife Viewing site with the Tribes and Montana Fish, Wildlife, and Parks. USFWS also cooperates with the Flathead Irrigation Project on the water levels in the reservoir.

2. Other Economic Uses

Nothing to report.

3. Items of Interest

Nothing to report.

4. Credits

Lynn Clark - Biological work and wrote Habitat Management and Wildlife Sections.
Pat Jamieson-Wrote public use section.
Terri Middlemist- Word processing, assembly.
Dean Vaughan-Goose data and report.
William West-Grazing and pest control sections.
Glenda Wiseman - Editing.

K. FEEDBACK

Nothing to report.

PABLO NATIONAL WILDLIFE REFUGE

PABLO, MONTANA

ANNUAL NARRATIVE REPORT

Calendar Year 1995

U.S. Department of the Interior
Fish and Wildlife Service
NATIONAL WILDLIFE REFUGE SYSTEM

REVIEWS AND APPROVALS

PABLO NATIONAL WILDLIFE REFUGE

Pablo, Montana

Managed by staff at the National Bison Range
Moiese, Montana

ANNUAL NARRATIVE REPORT

Calendar Year 1995

David W Wiseman	4/1/99		
Refuge Manager	Date	Refuge Supervisor Review	Date
Regional Office Approval	Date		

Introduction

Pablo National Wildlife Refuge is located on the Flathead Indian Reservation two miles northwest of Pablo, Montana, and approximately 18 miles north of the National Bison Range. It is a 2,542 acre "easement" waterfowl refuge administered by National Bison Range personnel.

The refuge is located on lands of the Confederated Salish and Kootenai Tribes. Lands within the refuge boundary were first withdrawn for an irrigation reservoir as part of the Flathead Project in 1910. The wildlife refuge was established by Executive Order on the same withdrawal in 1921, subject to reservoir uses. A 1948 Act of Congress reimbursed the Tribes $400,000 for all past and future uses of certain reservation lands for physical works and facilities of the Flathead Project irrigation and power systems, and for wildlife refuges (Ninepipe and Pablo NWR's). The payment included $68,712 for the easement at Pablo Refuge.

The 1948 Act also stated that the Tribes "shall have the right to use such Tribal lands, and to grant leases or concessions thereon, for any and all purposes not inconsistent with such permanent easement." The phrase "not inconsistent with such permanent easement" has been the subject of considerable controversy, correspondence and negotiation over the years, but FWS has been able to exert some influence on management of the refuge for waterfowl purposes.

The reservoir contains 1,850 acres at full pool. The only FWS control of water levels comes through cooperation with the BIA Flathead Irrigation Project. In the case of conflicts, wildlife is a secondary use to irrigation because of wording in the 1921 Executive Order.

The 692 acres of upland surrounding the reservoir within the refuge is used by Tribal members for farming and grazing under permits issued by the BIA. FWS attempts to provide for wildlife habitat on these areas through Memorandums of Understanding with the BIA and Tribes.

Approximately 600 acres of adjoining State Game Management Area lands add to the overall wildlife values of the Pablo complex.

TABLE OF CONTENTS

A. HIGHLIGHTS

Although the number of duck breeding pairs was similar to 1994, production was down. See Section G-3, Wildlife, Waterfowl, Ducks.

Marcy Bishop continued to monitor great blue heron and double-crest cormorant nesting activity again this year. See Section G-4, Wildlife, Marsh and Water Birds.

B. CLIMATIC CONDITIONS

Weather conditions at Pablo were similar to those for the National Bison Range which are covered in the NBR Narrative Report. Information from the Polson Kerr Dam weather station about 3 miles from Pablo usually shows that precipitation at Pablo averages about 20% higher than at NBR.

C. LAND ACQUISITION

Nothing to report.

D. PLANNING

1. Master Plan

Nothing to report.

2. Management Plan

The Memorandum of Understanding negotiated in 1992 with the Confederated Salish and Kootenai Tribes covering grazing and farming on the refuge has remained unsigned by the Tribes.

3. Public Participation

Nothing to report.

4. Compliance with Environmental and Cultural Resource Mandates

Nothing to report.

5. Research and Investigations

Nest Success of Upland Nesting Ducks in Relation to Predator Removal - Montana Cooperative Wildlife Research Unit, Missoula, Montana.

Nest searches were conducted on 337 acres of alfalfa, managed cover, and pasture in the area where skunks were not removed. Nest searches were conducted 3 times a year. Four to six field workers were employed to conduct nest searches and trap skunks.

Mayfield nest success estimate for all ducks was 7.2% with 24 nests found and 2.0% nest success for mallards with 3 nests found. There was a 0.07 density of nest per acre for all ducks and 0.01 for mallards.

Nest searches from 1986 to 1995 were conducted as part of a long-term study analyzing the effects of skunk removal on nest success. Before skunk removal (1986-1988), Mayfield nest success of all ducks averaged 21.3% in the Ninepipe area and 22.5% in the Pablo area. During skunk removal (1989-1994), duck nest success was far higher in the Ninepipe area (50.5%) relative to the Pablo area (21.4%). After skunk removal, duck nest success was again similar in the Ninepipe (9.0%) and Pablo (9.0%) areas.

6. Other

Nothing to report.

E. ADMINISTRATION

1. Personnel

Pablo NWR is administered from the National Bison Range, and most administrative information is covered in the National Bison Range Narrative Report.

2. Youth Programs

Nothing to report.

3. Manpower Programs

Nothing to report.

4. Volunteer Program

Nothing to report.

5. Funding

Nothing to report.

6. Safety

Nothing to report.

7. Technical Assistance

Nothing to report.

8. Other

Nothing to report.

F. HABITAT MANAGEMENT

1. General

Nothing to report.

2. Wetlands

Water levels in the main Pablo Reservoir were dependent on runoff, pumping operations by Flathead Irrigation Project and irrigation use throughout the summer. Main reservoir levels for the year are listed in Table 1.

Table 1. Month-end water levels of the main reservoir at Pablo NWR in 1995

Month	acrefoot	Month	acrefoot
January	13,200	July	20,130
February	13,227	August	12,530
March	13,200	September	13,458
April	13,100	October	13,394
May	15,720	November	13,330
June	26,720	December	13,500

3. Forests

Nothing to report.

4. Croplands

Nothing to report.

5. Grasslands

There are approximately 185 acres of grasslands within the fenced boundary of the Refuge. This area is dominated by the cool-season species Kentucky bluegrass and quack grass, interspersed with brushy patches of rosebush and snowberry, along with stands of planted caragana and Russian olive. Moisture this year was adequate for good grass growth.

6. Other Habitats

Nothing to report.

7. Grazing

The Memorandum of Understanding negotiated with the Confederated Salish and Kootenai Tribes Lands Division and Tribal permittee covering grazing and farming on the refuge remained unsigned.

8. Haying

Nothing to report.

9. Fire Management

Nothing to report.

10. Pest Control

Refuge staff sprayed 20 acres of spotted knapweed near the Pablo dike and 5 other areas of the Refuge during June using 2,4-D.

11. Water Rights

Nothing to report.

12. Wilderness and Special Areas

Nothing to report.

13. WPA Easement Monitoring

Nothing to report.

G. WILDLIFE

1. Wildlife Diversity

The sub-impoundments, constructed by Ducks Unlimited (DU) in 1987, along with the nesting cover blocks established in 1988, have helped to increase wildlife diversity. The impoundments have helped to increase the food base for bald eagles, great blue herons and double-crested cormorants. A number of other species of marsh and water birds have also benefited. The upland cover patches developed under the farming MOU (expired 1991) also provide some additional habitat in the early season for such birds as short-eared owls, northern harriers, ring-necked pheasants and a number of other ground nesting species.

2. Endangered and/or Threatened Species

In May, it was reported that the bald eagle nest had 2 young.

3. Waterfowl

Ducks

Production for 1995 was based on the formula of the number of pairs, a 12% production rate, with an average brood size of 5.4 and 70% brood survival. Total production was 243, a relatively poor year.

TABLE 2. 1995 Duck Production
Ducks Unlimited Units at Pablo NWR
(pairs X .06 production X 5.2 brood size X .7 brood survival production)

SPECIES	NUMBER OF BREEDING PAIRS	ESTIMATED PRODUCTION
Mallard	32	14
Gadwall	11	5
Cinnamon Teal	23	10
Blue-winged Teal	6	3
Northern Shoveler	6	3
Canvasback	4	2
Ring-necked Duck	4	2
American Wigeon	6	3
Total	92	42

TABLE 3. 1995 Duck Production Pablo National Wildlife Refuge (pairs X .12 production X 5.4 brood size X .7 brood survival production)

SPECIES	NUMBER OF BREEDING PAIRS	PRODUCTION
Mallard	296	134
American Wigeon	8	4
Gadwall	70	32
Redhead	15	7
Northern Shoveler	1	1
Ruddy Duck	1	1
Cinnamon Teal	2	1
Blue-winged Teal	6	3
Green-winged Teal	2	1
Ring-necked Duck	7	3
Northern Pintail	4	2
Wood Duck	2	1
Common Merganser	5	2
Unknown	24	11
Total	443	203

The total number of breeding pairs is 535, with a estimated production of 245.

An informal driving survey was run 5 times during May and June by Charles and Shirley Keller. Waterfowl observed are listed in Table 4. Other birds observed are listed in Tables 5 - 8.

TABLE 4. WATERFOWL OBSERVED ON SURVEY ROUTE						
Species	05/21	05/24	06/12	06/15	06/26	Pair Count
Canada Goose	12	200	135	312	63	
Wood Duck				6		2
Green-winged Teal		8			2	2
Mallard	16	70	72	178	47	479
Northern Pintail		16				4
Blue-winged Teal		20	2	6	4	12
Cinnamon Teal	8	12	6	8	2	25
Northern Shoveler	4	21	2	10	4	7
Gadwall	10	45	6	26	15	81
American Wigeon		8	2	7	10	14
Canvasback		9		7		4
Redhead		26	158	253	28	
Ring-necked Duck		6		26	75	21
Lesser Scaup	4	15		14	18	
Common Goldeneye	1	1	1	2	3	
Ruddy Duck						1
Bufflehead		5		1		
Hooded Merganser				1	4	
Common Merganser	2	2		1	1	5

Geese

An aerial census of goose breeding pairs in April showed 21 breeding pairs of Canada geese, along with 24 singles. Total pair count was 45 compared to 50 pairs counted in 1994.

Canada goose production survey was flown May 31, with 124 goslings counted. This is down from the 202 goslings counted in 1994. All areas flown in western Montana showed a decrease of 28%.

4. Marsh and Water Birds

A loon was spotted on May 21, 2 on May 24 and 1 on May 31. Nesting was not documented.

American coots are common with 32 counted on May 21, 44 on May 24, 12 on June 15 and 6 on June 26.

Great blue herons nested on cottonwood trees on the west side of the main reservoir and also in a tree on the lone reservoir island. Marcy Bishop documented nest numbers and success at the heronries. A total of 41 young were produced in 18 nests for 2.28 young per nest. Double-crested cormorants nested in a tree on the lone island and in three trees on the west side. A total of 39 nests producing 72 young were documented.

Other birds documented at Pablo include red-necked, pied-billed, and western grebes, and sora. Fifty American White Pelicans were tallied on the duck brood count on August 3. See Table 5 for a listing of numbers of marsh and water birds observed on the informal driving surveys conducted by volunteers Charles and Shirley Keller and the duck pair count. For information on other birds observed, see Tables 4, 6-8.

TABLE 5. MARSH AND WATER BIRDS OBSERVED ON SURVEY ROUTE

Species	05/21	05/24	06/12	06/15	06/26	Pair Count
Common Loon	1	2				1
Pied Billed Grebe		1				
Horned Grebe		2				
Red-necked Grebe	4	14	6	14	6	11
American White Pelican		1	1			
Double Crested Cormorant	80	64	42	110	16	
Great Blue Heron	2	22	16	28	10	
Sora		1				
American Coot	32	44		12	3	37

5. Shorebirds, Gulls, Terns and Allied Species

Birds of this category recorded during the year were killdeer, greater yellowlegs, spotted sandpipers, long-billed curlew, common snipe, Wilson's Phalarope, ring-billed and

California Gulls, and caspian and Forster's Terns. On June 15 Kellers observed four long-billed curlews with 2 young on Pablo NWR. For numbers observed see Table 6. For information on other birds observed, see Tables 4,5, 7,8.

TABLE 6. SHOREBIRDS, GULLS, AND TERNS OBSERVED ON DRIVING ROUTE SURVEY						
Species	05/21	05/24	06/12	06/15	06/28	Pair Count
Killdeer	2	10	2	6	12	
Greater Yellowlegs					6	
Spotted Sandpiper		10	1	2		1
Long-billed Curlew		3		6		
Common Snipe		14		3		
Wilson's Phalarope		2			3	
Bonaparte's Gull		10				
California Gull					6	
Caspian Tern		2				
Forster's Tern	1					

6. Raptors

Summer raptors observed on and around Pablo include; red-tailed hawks, osprey, American Kestrel, northern harrier, and great-horned owl. The pair of eagles returned to the nest on the west side of the reservoir and again fledged two young. At least one red-tailed hawk nested on the refuge. Winter raptors include rough-legged hawks and up to seven snowy owls. Raptors observed by the Kellers on their informal driving survey are listed in Table 7.

Pablo NWR
Pair of immature bald eagles at heron rookery. PJ 8/95

TABLE 7. RAPTORS OBSERVED ON DRIVING SURVEY						
Species	05/21	05/24	06/12	06/15	06/26	Pair Count
Osprey	1	1	1	2	1	
Bald Eagle	1					
Northern Harrier	2	2	1	1	1	
Red-tailed Hawk	2	1	2	2	3	1
American Kestrel	2	2	2	2	2	
Great-horned Owl				1	2	

7. Other Migratory Birds

Volunteers Charles and Shirley Keller ran the Pablo breeding bird survey three times in the spring and early summer. They recorded 900 individuals of 57 different species. The most common species are listed below.

Red-winged Blackbird	157	Common Snipe	25
Cliff Swallow	113	Eastern Kingbird	23
American Robin	57	Common Raven	22
Yellow-headed Blackbird	51	Black-billed Magpie	21
Western Meadowlark	49	Canada Goose	20
Killdeer	48	Long-billed Curlew	11
Bank Swallow	31		

The Kellers also set up and ran another route along the south shore. They ran this survey three times. The most common species are listed below.

Mallard	142	Red-winged Blackbird	36
Canada Goose	116	American Robin	33
Western Grebe	107	Black-billed Magpie	25
Double-crested Cormorant	77	Savannah Sparrow	20
Ring-necked Pheasant	44	Red-necked Grebe	17
American Coot	41		

For a complete list of species seen on the informal driving survey run five times by Charles and Shirley Keller see Table 8.

Table 8. Neotropical Migratory Birds Observed on Driving Survey Route

Species	05/21	05/24	06/12	06/15	06/26
Mourning Dove	3	12	6	3	3
Belted Kingfisher	1			1	
Northern Flicker		8	2	2	
Western Wood-Peewee				2	2
Willow Flycatcher			1		2
Western Kingbird		1			1
Eastern Kingbird	2	10	6	18	4
Horned Lark				2	
Tree Swallow	6	28	10	11	15
NRW Swallow	12	4	10	20	10
Bank Swallow		6	48	60	63
Cliff Swallow	8	4	15	110	44
Barn Swallow	4	10	8	18	27
Black-billed Magpie	12	12	8	14	16
American Crow			2	2	
Common Raven	6	10		2	3
Black-capped Chickadee		1			
Marsh Wren				14	2
Mountain Bluebird	3				
American Robin			2	12	11
European Starling	4	16	6	3	6
Warbling Vireo		2			
Yellow Warbler		4		2	3
Common Yellowthroat		6	1	1	1
Black-headed Grosbeak		1			
Rufous-sided Towhee			1		
Chipping Sparrow	1				
Clay-colored Sparrow		2			
Vesper Sparrow	4		1		3
Savannah Sparrow	2	1	2	10	10
Song Sparrow	1	4	1	3	2
Red-winged Blackbird	8	34	12	30	18
Western Meadowlark	14	21	4	18	15
Yellow-headed Blackbird	6	4	10	32	16
Brewer's Blackbird	6	20	6	10	6
Brown-headed Cowbird		28	2	2	7
Northern Oriole		8	2	3	2
American Goldfinch		6			1
House Sparrow	6			6	7

8. Game Mammals

White-tailed deer are occasionally seen at Pablo.

9. Marine Mammals

Nothing to report.

10. Other Resident Wildlife

Ring-necked Pheasant are common. Hungarian Partridge are also present. Coyotes are frequently seen and a marmot was seen by Keller's on one of their surveys.

TABLE 9. OTHER SPECIES OBSERVED ON DRIVING SURVEY

Species	05/21	05/24	06/12	06/15	06/26	Pair Count
Gray Partridge		2		2	1	
Ring-necked Pheasant	6	16	2	16	10	

11. Fisheries Resources

Surveys by Tribal Fisheries Biologists have identified populations of yellow perch, pumpkinseeds, black bullheads, longnose and large-scale suckers, peamouth, lake whitefish and largemouth bass in Pablo Reservoir.

12. Wildlife Propagation and Stocking

Nothing to report.

13. Surplus Animal Disposal

Nothing to report.

14. Scientific Collections

Nothing to report.

15. Animal Control

Nothing to report.

16. Marking and Banding

Nothing to report.

17. Disease Prevention and Control

Nothing to report.

H. PUBLIC USE

1. General

Visitation to the refuge was estimated at 5,000, with most use coming from fishermen and bird watchers.

2. Outdoor Classrooms - Student

Nothing to report.

3. Outdoor Classrooms - Teachers

Nothing to report.

4. Interpretive Foot Trails

Nothing to report.

5. Interpretive Tour Routes

Nothing to report.

6. Interpretive Exhibits/Demonstrations

Nothing to report.

7. Other Interpretive Programs

Nothing to report.

8. Hunting

There was no hunting allowed within the refuge boundary. Some off refuge waterfowl hunting occurred along the boundary, but pressure and success were generally low.

9. Fishing

Fishing activity at Pablo was primarily by local ice fishermen, with yellow perch the predominant species taken. The entire refuge was open to ice fishing after waterfowl season closure in January. Beginning March 1, most of the shoreline is closed to fishing. Largemouth bass planted by the Tribes in recent years appeared successful and have begun to show up in the harvest.

10. Trapping

Nothing to report.

11. Wildlife Observation

Birding has been a dominant non-consumptive public use at Pablo and a small core group of local citizens regularly visited the refuge throughout the year except during waterfowl hunting and fire closures. Short-eared owls and other raptors, nesting cormorants and herons and the spring and fall shorebird and loon migrations were the major attractions.

12. Other Wildlife Oriented Recreation

Nothing to report.

13. Camping

Nothing to report.

14. Picnicking

Nothing to report.

15. Off-Road Vehicle Use

Nothing to report.

16. Other Non-Wildlife Oriented Recreation

Nothing to report.

17. Law Enforcement

Refuge boundaries were patrolled by Refuge Officers on opening weekends of hunting seasons and occasionally thereafter with no violations noted.

18. Cooperating Associations

A number of wetland and waterfowl-oriented publications which are applicable to this area are sold through the Glacier Natural History Association book outlet at the National Bison Range Visitor Center.

19. Concessions

Nothing to report.

I. EQUIPMENT AND FACILITIES

1. New Construction

Nothing to report.

2. Rehabilitation

Nothing to report.

3. Major Maintenance

A portion of the sub-impoundment was cleared of Russian Olive in June near units 2 and 3.

4. Equipment Utilization and Replacement

Nothing to report.

5. Communications Systems

Nothing to report.

6. Computer Systems

Nothing to report.

7. Energy Conservation

Nothing to report.

8. Other

Nothing to report.

J. OTHER ITEMS

1. Cooperative Programs

Nothing to report.

2. Other Economic Uses

Nothing to report.

3. Items of Interest

Nothing to report.

4. Credits

Lynn Clark - Biological work, and writing of biological sections
Pat Jamieson - Public use and volunteer information collection and writing
Terri Middlemist - word processing, assembly
Bill West - Section F-Habitat Management
Glenda Wiseman - Editing

K. FEEDBACK

See National Bison Range report.